

APPENDIX Q

POTENTIAL ALLOCATION STRATEGIES: DISCUSSION PAPERS

The four briefing papers that follow were prepared by LTMS agency staff as issue papers on proposed implementation of the long-term strategy. These were presented to the interested parties on July 3, 1998, November 16, 1998, and December 5, 1999, respectively, as part of a series of workshops held over 18 months, most of which were facilitated, and reflect changes to the implementation approach in response to comments and suggestions. The other was a briefing paper presented to the Commission on the status of the LTMS on November 25, 1998. The actual LTMS transition strategy is contained in Chapter 6. The data used as the basis for the strategy is in Appendix H.

LONG TERM MANAGEMENT STRATEGY



DISCUSSION PAPER

Potential In-Bay Allocation Strategies

July 3, 1998

The *Draft Environmental Impact Statement/Programmatic Environmental Impact Report (EIS/R) for the Long Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region* presented potential mechanisms for implementing Alternative Three, which will be identified as the preferred alternative in the Final EIS/R currently scheduled to be issued in August, 1998. Alternative Three will involve distributing dredged material amongst the in-Bay, Upland/Wetland Reuse (UWR), and ocean environments under a 20/40/40 percent formula, respectively, with a goal of ultimately disposing a maximum of 1.0 million cubic yards (mcy) of dredged material per year in the Bay. A preliminary discussion regarding potential mechanisms for implementing Alternative Three was presented in the Draft EIS/R for the LTMS.

The transition from present disposal practices to the 20/40/40 distribution will be implemented over a multi-year period in order to reduce economic dislocations to dredgers by allowing time for new UWR sites to come on-line, new equipment and practices to be implemented, and funding mechanisms and arrangements to be established. In addition, this alternative will be implemented using a regulatory cap on in-Bay disposal to incrementally decrease in-Bay disposal volumes over time and by allocating in-Bay disposal site capacity between three dredger types: small, medium, and COE.^{1, 2} This discussion paper expands upon five potential strategies for implementing Alternative Three.

④ Strategy One: Total Allotments Over a Multi-Year Period With Trading

Small dredger exemption. Small dredgers would be exempt from any in-Bay disposal allocations, and thus would be allowed to dispose in the Bay as long as there are no UWR or ocean alternatives. Each small dredger would therefore be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the Dredged Material Management Office (DMMO). Between 1991 and 1997, an annual average of approximately 250,000 cubic yard (cy) were dredged by the small dredgers (Attachment 1). Therefore, it is anticipated that 250,000 cy per year capacity at in-Bay sites would be needed to accommodate the small dredgers (Figure 1).^{3, 4}

1 For planning purposes: small dredging projects have been defined by a dredging depth of less than -12 MLLW and generating less than 50,000 cy per year as a long-term average; medium dredging projects by a depth greater than -12 MLLW and/or average annual volumes greater than 50,000; and COE projects as those maintained by the COE. It should be noted that dredging project definitions will be further clarified and/or refined in the Draft LTMS Management Plan.

2 The regulatory cap would be less ambitious than the goal to facilitate the transition.

3 Data provided by BCDC, RWQCB, COE, Bay Planning Coalition, and Moffatt & Nichol Engineers.

4 Small dredger exemption would be common to all five strategies.

Medium and COE dredgers. At the beginning of the transition to Alternative Three, each medium and COE dredging project sponsor would receive an in-Bay disposal volume allocation *mid-way between their seven-year average and seven-year maximum volumes* (Attachment 1) derived from their 1991-1997 disposal volumes. In order to implement the goals of Alternative Three, each dredger's volume allotment for in-Bay disposal would be reduced over time in proportion to the periodic reductions in the total regulatory cap on in-Bay disposal (Figure 1).⁵

The total volume allotted per dredging project sponsor could be used for a single episode or a series of episodes over a multi-year period.⁶ Dredging project sponsors could dispose their allotted volume at any time during the multi-year period as long as the regulatory cap of 2.8 mcy is not exceeded. Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed. Once a project sponsor had used their total in-Bay disposal volume allocation, no dredged material from subsequent dredging episodes could be disposed in the Bay, and instead alternative disposal options would need to be used.

In-Bay allocation exchange. Any unused portion of a particular volume allotment could be exchanged between medium and COE dredging project sponsors. It would be up to the discretion of medium and COE project sponsors to make these exchanges. In the case where an "exchange" had occurred, DMMO permit applicants would be required to provide evidence and verification from another dredger that all or a portion of their allotted in-Bay disposal volume had been granted to the applicant. Because of their exemption, small dredgers would not be a part of this exchange system.

Contingency Allotment. In each dredging and disposal period, a specific volume of in-Bay disposal site capacity would be reserved to account for emergency dredging and in-Bay disposal needs (Figure 1). This reservation of in-Bay disposal site capacity would be in addition to that designated for individual dredger allocations and the small dredger exemption. The types of emergency conditions approved under the contingency allotment will be defined in the Draft LTMS Management Plan.⁷

Site monitoring disposal fees. Disposal fees would be administered to monitor and manage in-Bay disposal sites.⁸ The fee would vary according to the volume with those generating smaller volumes paying lower fees per cy and those dredging larger volumes paying higher fees per cy. As such the fee would be proportionate to the level of use and potential for impacts. Fees would be used for in-Bay disposal site monitoring.⁹

Strategy One Pros and Cons. Potential advantages and disadvantages associated with Strategy One are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

5 Specific volume reductions to be provided in the Draft LTMS Management Plan.

6 The number of years in which dredging project sponsors could dispose of their allotments to be defined in the Draft LTMS Management Plan.

7 The contingency allotment would be common to all five strategies.

8 A fee would require state legislation prior to implementation.

9 The impact disposal fee would be common to all five strategies.

Pro. The starting point for medium and COE dredgers is high enough (i.e., it reflects a multi-year volume as opposed to an annual average volume, as discussed below in Strategies Two and Three) to facilitate dredging without the need for trading or waiting over a multi-year period to commence projects.

Con. If all medium and COE dredgers opt for using their combined total volume allotments in a single year, the initial regulatory cap of 2.8 mcy would be exceeded. Thus, there would be insufficient capacity at in-Bay sites for the combined medium and COE total volume allotments during that time.

Strategy Two: Average Annual Allotments With Trading and Without Banking

Small dredger exemption. (See above.)

Medium and COE dredgers. At the beginning of the transition to Alternative Three, each medium and COE dredging project sponsor would receive an annual in-Bay disposal volume allocation equal to their proportion of the 2.8 mcy starting volume derived from their average 1991-1997 disposal volumes (Attachment 1).³ To implement the goals of Alternative Three, each dredger's annual volume allotment for in-Bay disposal would be reduced periodically in proportion to the periodic reductions in the total regulatory cap on in-Bay disposal (Figure 1).⁵ Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed.

Allocation Exchange. Annual volume allotments could not be "banked" or transferred from one year to the next. However, any unused portion of an annual in-Bay volume allotment could be exchanged between medium and COE dredgers if they needed additional allotments to dispose in the Bay. In the case where an "exchange" had occurred, DMMO permit applicants would be required to provide evidence and verification from another dredger that all or a portion of their allotted in-Bay disposal volume had been granted to the applicant. Project sponsors would be encouraged to determine their dredging needs for each year in accordance with their volume allotment and transfer any portion not needed to other dredgers. If additional in-Bay volume allotments could not be obtained from other sponsors, alternative disposal sites for the remaining material would need to be used.¹⁰ Because of their exemption, small dredgers would not be a part of this exchange system.

Contingency Allotment. (See above.)

Site monitoring disposal fees. (See above.)

Strategy Two Pros and Cons. Potential advantages and disadvantages associated with Strategy Two are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

Pro. The inability to bank would prevent dredgers from using large reserved allotments all at one time when, to do so, might exceed the regulatory ceiling.

¹⁰ Dredgers would be required—e.g. via permit conditions—to keep records of dredging and disposal activities including volumes exchanged and banked (as discussed under Strategy Three), and submit data to the DMMO, which would store and track it.

Pro. During the period when the regulatory cap is 2.8 mcy, there would be adequate in-Bay disposal capacity in the event all medium and COE dredgers intended to dredge their combined total average annual in-Bay disposal volume allocation (i.e. equal to their proportion of the 2.8 mcy starting volume derived from their total average 1991-1997 disposal volumes), approximately 2.4 mcy.

Con. Without the ability to bank individual volume allotments it could make projects involving in-Bay disposal more difficult to plan for and ultimately implement.

Con. Every year, each dredger would be limited to dispose in the Bay that year's average allotment unless trading had occurred so if allotments from other dredgers were not available for trade, dredgers would not be able to dispose total project volume in the Bay.

Con. The combined total average annual volume for both medium and COE dredgers equal to their proportion of the 2.8 mcy starting volume derived from their annual average 1991-1997 disposal volumes would be 2.4 mcy. Therefore, at the starting point of Strategy Two, the total in-Bay disposal capacity for medium and COE dredgers would be set at 2.4 mcy per year. If all medium project sponsors dredged at their highest historical volume (i.e. not average), approximately 1.0 mcy, in the first year, then this volume could be disposed in the Bay. However, in-Bay disposal of material from any large COE maintenance projects during that time would reduce significantly potential in-Bay disposal capacity for medium dredgers.

Strategy Three: Average Annual Allotments With Trading and Banking

Small dredger exemption. (See above.)

Medium and COE dredgers. At the beginning of the transition to Alternative Three, each medium and COE dredging project sponsor would receive an annual in-Bay disposal volume allocation equal to their proportion of the 2.8 mcy starting volume derived from their total average 1991-1997 disposal volumes (Attachment 1).³ To implement the goals of Alternative Three, each dredger's annual volume allotment for in-Bay disposal would be reduced periodically in proportion to the periodic reductions in the total regulatory cap on in-Bay disposal (Figure 1).⁵ Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed.

Allocation Exchange and Banking. Volume allotment exchanges would be allowed under this option. In addition, annual volume allotments could also be "banked" or transferred from one year to the next. Banked volumes would be reduced over time as the regulatory cap and total annual volume allotments for dredgers are reduced. In the case where an "exchange" had occurred, DMMO permit applicants would be required to provide evidence and verification from another dredger that all or a portion of their allotted in-Bay disposal volume had been granted to the applicant.

Dredging project sponsors might choose to bank their annual dredging allotments so as to reserve sufficient volume for future in-Bay disposal events. Dredging project sponsors whose volume allotment would not allow all of the volume generated from a project to go in the Bay, and who might be unable to obtain additional in-Bay volume allotments from other dredgers, would need to find alternative disposal sites. Because of their exemption, small dredgers would not be a part of this exchange system.

Contingency Allotment. (See above.)

Site monitoring disposal fees. (See above.)

Strategy Three Pros and Cons. Potential advantages and disadvantages associated with Strategy Three are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

Pro. During the period when the regulatory cap is 2.8 mcy, there would be adequate in-Bay disposal capacity in the event all medium and COE dredgers intended to dredge their combined total average annual in-Bay disposal volume allocation (i.e. equal to their proportion of the 2.8 mcy starting volume derived from their total average 1991-1997 disposal volumes), approximately 2.4 mcy.

Con. With the banking option, if the preferred disposal option were in the Bay, then there would be greater incentive to bank than to trade. As a result, dredgers might not be able to obtain credits via the exchange system.

Con. Banked volumes would decrease overtime in proportion to decreases in the regulatory cap and allowable in-Bay disposal volumes. Therefore dredgers risk losing their banked volumes over time, and thus their total allotment for in-Bay disposal.

Strategy Four: First-come, First-served

Small dredger exemption. (See above.)

Medium and COE dredgers. Under this strategy, medium and COE dredgers would not receive annual or multi-year volume allotments. Instead, dredgers would have the opportunity to dispose of dredged material in-Bay until the regulatory cap and target volumes for each in-Bay site have been met. Disposal would occur on a first-come, first-served basis. Consequently, dredgers intending to dispose in-Bay after the regulatory cap and/or target volumes had been reached would need to find alternative disposal options. The goals of Alternative Three could be reached under this strategy by periodically reducing the regulatory cap and the targets for individual disposal sites in the Bay. Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of their permit application process to the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed. Because of their exemption, small dredgers would not be a part of this first-come, first-serve system.

Contingency Allotment. (See above.)

Site monitoring disposal fees. (See above.)

Strategy Four Pros and Cons. Potential advantages and disadvantages associated with Strategy Four are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

Pro. Those who are first "in-line" would have ample room for in-Bay disposal.

Con. Those who are last "in-line" would likely have little to no room for in-Bay disposal.

Strategy Five: Reduced In-Bay Disposal of COE Maintenance Material To Achieve Volume Targets

Small dredger exemption. (See above.)

Medium and COE dredgers. Under this strategy, the volumes of COE maintenance material needed in any one year to meet transition targets would be disposed outside of the Bay at either UWR or ocean sites. Based on data from 1991-1997, during that time, the highest annual volume (i.e., not average) dredged by the COE was approximately 2.0 mcy in 1993. Similarly, between 1991 and 1997, the highest annual volume dredged by the medium dredgers was 970,000 cy in 1995. ³ The highest annual volume dredged by small dredgers between 1991-1997 was approximately 300,000 cy in 1991 (Attachment 1).

In the event that similar volumes were dredged in any one year once the in-Bay disposal target of 1.0 mcy (excluding contingency volume) was reached and the COE was required to dispose its maintenance material outside the Bay, as much as 1.0 mcy of in-Bay disposal capacity would remain for both the small and medium dredgers. Taking into account historical (1991-1997) total annual volumes, almost one-third of the remaining 1.0 mcy of in-Bay disposal capacity would be accounted for by small dredgers because of the proposed exemption. Consequently, about two-thirds capacity would remain for the medium dredgers.

Although under this strategy access to in-Bay disposal capacity would likely be less restricted in comparison to several of the other strategies discussed previously, dredgers would still be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the DMMO, and, in the event either alternative could be used, in-Bay disposal would not be allowed.

Contingency Allotment. (See above.)

Site monitoring disposal fees. (See above.)

Strategy Five Pros and Cons. Potential advantages and disadvantages associated with Strategy Five are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

Pro. The burden associated with using and/or developing UWR and ocean disposal options would be primarily assumed by the COE and not the medium dredgers. The ability of medium dredgers to dispose more often in-Bay would likely result in a less significant impact on private industry.

Con. In the event the COE is unable to obtain adequate funding for using and/or developing UWR and ocean disposal options, the federal channels might not be maintained adequately.

Con. Since the burden associated with using and/or developing alternative UWR and ocean disposal options would be primarily assumed by the COE, the emphasis of alternative site development by the COE could have a significant impact on taxpayers.

Attachment One: Total and Average Annual Maintenance Dredging Volumes (1991-1997)

Category *	Disposal	Project **	Project Depth (MLLW)	Year ***	Reference ***	Year	Reference	Year	Reference	Year	Reference	Year	Reference	Total Volume dredged: 91-97 (BKDC)	Annual Average 91-97 (BKDC)
S	SF-11	Acolian YC	-9	13,454	1,2	0		0		1997		0		13,454	1,922
S	SF-11	Allied	-5	0		0		0		0		0		16,800	2,400
S	SF-11	Ballena Bay	-5	527	1,2	0		0		0		0		527	75
S	SF-11	Belvedere Cove (Homeowners)	-6	0		0		0		0		0		10,503	1,500
S	SF-11	Berkeley Marina	-12	111,987	1	12,182	1,2	32,169	2	0		0		156,338	22,334
S	SF-10	Black Point Launch Ramp	7	0		0		0		200		235	7	435	62
S	SF-11	Brickyard Cove	-10	0		0		0		2,750	4	0		2,750	393
S	SF-11	Candlestick Point	-8	0		0		0		50,700		0		50,700	7,243
S	SF-9	City of Benecia Marina	-11	6,651	1	39,000	1,2	19,766	2	15,809	2	16,090	7	98,235	14,034
S	SF-11	City of Conte Madera	7	0		0		29,000	2	0		0		29,000	4,143
S	SF-11	City of Emeryville	7	35,029	1	3,000	1	0		0		0		38,029	5,433
S	SF-9	City of Vallejo Ferry Terminal	-12	0		0		8,000	2	0		8,305	7	16,305	2,329
S	SF-11	Clipper YC	-8	0		0		0		800	3	34,730	4	45,410	6,487
S	SF-11	Contra Costa Flood Dist	7	0		0		0		4,800	2	0		4,800	686
S	SF-11	Corinthian Yacht Harbor	-5	0		2,100	1	0		0		7,825	7	9,925	1,418
S	SF-11	Coyote Pt. Marina	-12	0		0		118,500	2	250	2,3	0		118,750	16,964
S	SF-11	Emery Cove	-9	40,273	1	0		0		0		55,175	4	95,448	13,635
S	SF-9	Glen Cove Marina	-10	0		0		0		0		13,990	7	16,590	2,370
S	SF-11	Greenbrae Marina (City of Larkspur)	-10	0		0		0		75,000	2,3	0		75,000	10,714
S	SF-10	Greenbrae Marina (City of Larkspur)	-10	0		0		0		0		13,920	2	13,920	1,989
S	SF-11	Karl Limbach	7	0		792	1	0		0		0		792	113
S	SF-10	Lock Lomand Marina	7	0		0		0		0		32,570	7	32,570	4,653
S	SF-11	Marin Rowing Ass.	-5	0		3,342	1	0		0		0		3,342	477
S	SF-10	Marin YC	-8	3,700	2	0		42,000	2	1,000	2	3,475	7	50,175	7,168
S	SF-11	Marinship Yacht Harbor	7	0		200	1	0		0		0		200	29
S	SF-11	McNear Pier	7	0		0		0		32,800	2,3	0		32,800	4,686

Attachment One: Total and Average Annual Maintenance Dredging Volumes (1991-1997)

Category	Disposal Project **	Project Depth (MLLW)	Year ***	Reference ****		Year	Reference	Year	Reference	Year	Reference	Year	Reference	Year	Reference	Year	Reference	Total Volume dredged: 91-97 (BCDC)	Annual Average 91-97 (BCDC)
				1991	1992														
S	SF-11	Paradise Cay	<-8	40,691	2	0		16,175	2	800	4	11,700	7	69,366		9,909			
S	SF-10	Pt. San Pablo Yacht Harbor	-8	15,155	1	0		0		0		0		15,155		2,165			
S	SF-11	Pullman Building	-10	41,518	1,2	0		0		0		0		55,830		7,976			
S	SF-11	Redrock Marina	7	0	1	0		0		0		0		14,950		2,136			
S	SF-11	Redwood City YC	-10	0	0	54,000	2	15,000	2	0		0		69,000		9,857			
S	SF-11	San Leandro Marina	-7	0	0	0		0		0		0		60,150	7	8,593			
S	SF-10	San Rafael Canal	-8	0	0	0		122,507	2,3,4	35,700	4	28,750	7	186,957	7	26,708			
S	SF-11	San Rafael Canal	-6	0	0	0		0		0		0		750	7	107			
S	SF-9	San Rafael Yacht Club	7	2445	1	920	2	1,900	2,3	0		0		17,575		2,511			
S	SF-11	Sausalito Marine Corp	-8	0	1	0		0		0		0		1,400		200			
S	SF-11	Sausalito Yacht Club	-13	160	1,2	0		0		0		0		160		23			
S	SF-11	SF Marina	-12	0	0	0		11,544	3	22,863	4	0		34,407		4,915			
S	SF-11	St. Francis YC (Belvedere)	-11	0	1	0		1,544	coe	4,775	2,3	0		22,618		3,231			
S	SF-11	Strawberry Rec Dist	-6	0	0	81,136	2	0		45,675	4	0		263,811		37,687			
S	SF-10	Vallejo Yacht Club	-9	0	0	0		0		0		1,500	7	1,500		214			
S	SF-11	W.B. Clausen	7	0	1	0		0		0		0		820		117			
S	SF-11	Wickland Oil	7	0	0	0		0		3,604	4	0		3,604		515			
TOTAL				311,590		257,707		208,936		263,300		185,340		1,750,831		250,122			
M	SF-11	ARCO	-35	35,000	1,2	0		0		0		0		35,000		5,000			
M	SF-9	Benicia Port Terminal	-39	27,600	1,2	28,000	2	25,771	2,6	72,335	4	2,149	7	200,855		28,694			
M	SF-11	Chevron (Richmond Long Wharf)	-45	284,800	1,2	0		141,634	2,4	156,802	4	283,030	7	1,127,376		161,054			
M	SF-10	City of Larkspur	7	20,285	3,0	0		13,920	3	0		0		34,205		4,866			
M	SF-9	Exxon (Benicia)	-35	19,500	1,2	11,700	2	7,597	2,6	61,086	4	19,000	7	171,083		24,440			

Attachment One: Total and Average Annual Maintenance Dredging Volumes (1991-1997)

Category	Disposal	Project **	Project Depth (MLLW)	Year ***	Reference ***	Year 1992	Reference	Year 1993	Reference	Year 1994	Reference	Year 1995	Reference	Year 1996	Reference	Year 1997	Reference	Total Volume dredged: 91-97 (BCDC)	Annual Average 91-97 (BCDC)
M	SF-11	Larkspur Ferry Terminal	-15	0		0		217,200	2	0		466,937	2,3	0		20,905	7	705,042	100,720
M	SF-11	PG&B	-16	31,200	16,000	0		0		0		0		0		0		47,200	6,743
M	SF-9	Pacific Refining Co.	-38	102,906	10	0		0		0		0		0		0		102,906	14,701
M	SF-11	Port of Oakland (Berths)	-42	302,586	115,000	2	328,806	2	126,490	6	42,335	2	178,272	2,4	176,200	7	1,310,689	187,241	
M	SF-11	Port of Richmond (Berths)	-38	8,446	1,2	0		0		28,500	2	124,600	2	0		0		161,546	23,078
M	SF-11	Port of SF (Berths & Fisherman's Wharf)	-40	60,343	151,000	1,2	30,000	2	26,000	2,6	45,079	2,3,4	140,832	0		0		353,254	50,465
M	SF-11	San Rafael Rock Quarry	-16	33,300	20	0		0		0		0		0		0		33,300	4,757
M	SF-11	SF Drydock (SW Marine)	-35	0	89,000	1,2	0			0		119,000	2,3	0		0		208,000	29,714
M	SF-11	Schnitzer Steel	-37	0	0	13,440	2	0		0		0		15,811	4	7,284	7	36,535	5,219
M	SF-9	Unocal/Tosco	-35	55,600	0	50,655	0			0		0		89,556		26,300	7	222,111	31,730
M	SF-11	Cove & YB Is.	-18	0	0	0		0		55,000	2	0		0		0		55,000	7,857
	Total			981,566	397,000		940,911		214,358		965,705		485,537		249,689		4,804,102	604,969	
	SF-9	Mare Is Strait	-36	154,242	1,2	304,838	1,2	976,415	2	1,200,000	2	0		0		0		2,635,495	376,499
	SF-10	Petaluma ATF	-8	0	115,000	2,3	0			340,460	2,3	0		200	4	0		455,660	65,094
	SF-10	Pinole Shoal	-45	88,885	1	0	55,213	2	0	0		373,829	2,4	0		256,846	7	774,773	110,682
	SF-11	Oakland Harbor	-42	98,904	1,2	231,922	1,2	267,185	1,2	154,206	Oakland and	118,350	3,4	69,334		213,982	7	1,153,883	164,840
	SF-11	Richmond Harbor	38 to 45	475,500	1	379,000	2	353,214	1	300,000	2	476,532	4	491,850	4	346,024	7	2,822,120	403,160
	SF-11	Redwood City Harbor	-30	0	251,000	1,2	399,544	2	0	0		0		965,998	4	0		1,616,542	230,935
	SF-11	San Rafael ATF	-6	0	9,500	2	0			0		0		0		191,829	7	201,329	28,761
	SF-11	Sun Rafael Creek	-6	0	15,000	2	0			0		0		0		0		15,000	2,143
	Suisun Bay/ers	Suisun Bay Channel	-35	88,885	2	32,900	2	32,900	2	66,321	2	37,206	2,4	284,981	4	0		543,193	77,599

Attachment One: Total and Average Annual Maintenance Dredging Volumes (1981-1997)

Category *	Disposal Project **	Project Depth (MLLW)	Year ***	Reference ****										Total Volume dredged: 91-97 (BCDC)
				1991	1992	1993	1994	1995	1996	1997	Reference	Year	Reference	
			906,416	1,339,160	2,084,471	2,060,987	1,003,917	1,812,363	1,008,681				10,217,995	1,459,714
			2,199,572	1,993,867	3,292,373	2,530,332	2,180,558	2,563,220	1,443,710				16,772,948	2,314,805
TOTAL														

* "S" = small dredgers (i.e. project depth < 12'; > 50,000 cy/yr, non-COE project); "M" = medium dredgers (i.e. not small and not COE projects); "COE" = all Corps-maintained projects.

** Bay maintenance projects only (i.e. not sand dredging, new work, SF Bar Channel, or Delta (e.g. New York Slough)). Also not including U.S. Navy projects or projects with dedicated upland disposal sites (e.g. San Leandro).

*** For all years, when more than one value was available, the higher volume was used.

**** References as follows: (1) USACOE, S.F. Bay Dredging Records, 1985-1993; (2) SFRWQCB & BPC, S.F. Bay Dredging Volumes, 1991-1995; (3) USACOE, Annual Report and 4th Quarter Summary, FY 1995; (4) USACOE, Annual Report and 4th Qtr. Summary, FY 1996; (5) Moffatt & Nichol Engineers, 1997, Inventory of S.F. Bay Area Dredging Projects; (6) BCDC & USACOE, 4/7/95, Dredging and Disposal Roadmap; (7) USACOE, Annual Report and 4th Qtr. Summary, FY 1997.

Proposed In-Bay Disposal Volume Limits Over Time

Alternative Three
(Start Volume - 2.8 mcy)

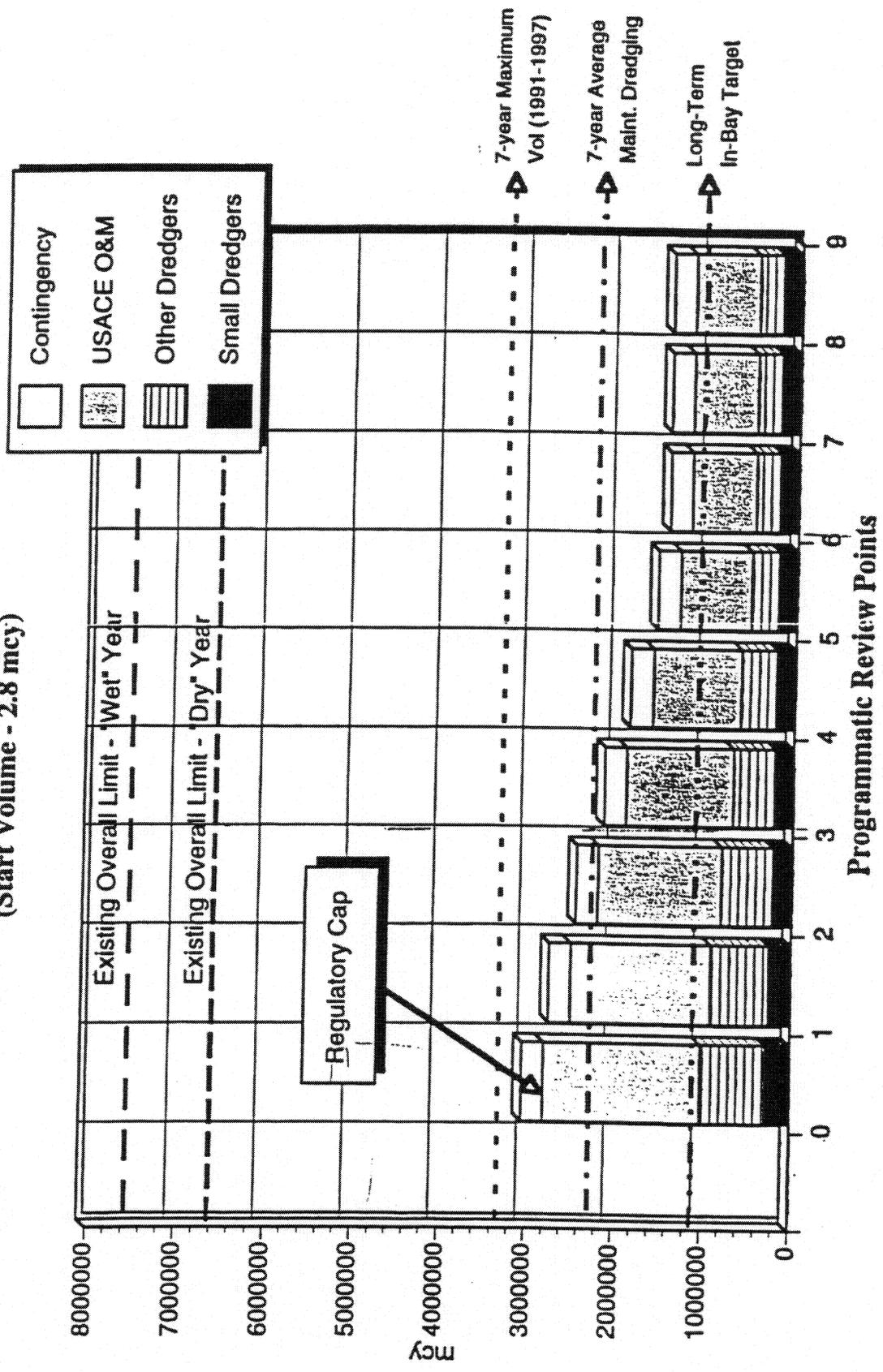


Figure 1

LONG TERM MANAGEMENT STRATEGY



DISCUSSION PAPER (NO. TWO) Proposed In-Bay Allocation Strategy

November 16, 1998

The *Final Environmental Impact Statement/Programmatic Environmental Impact Report (EIS/R) for the Long Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region* presents potential mechanisms for implementing the preferred alternative. The preferred alternative involves distributing dredged material amongst the in-Bay, Upland/Wetland Reuse (UWR), and ocean environments under a 20/40/40 percent formula, respectively, with a goal of ultimately disposing a maximum of 1.0 million cubic yards (mcy) of dredged material per year in the Bay. ¹ A preliminary discussion regarding potential mechanisms for implementing the preferred alternative was presented in the Final EIS/R for the LTMS.

The transition from present disposal practices to the 20/40/40 distribution will be implemented over a period of twelve years in order to reduce economic dislocations to dredgers by allowing time for new UWR sites to come on-line, new equipment and practices to be implemented, and funding mechanisms and arrangements to be established. In addition, the preferred alternative will be implemented by: (1) using a starting point of 2.8 mcy as the starting point for the volume of material allowed for in-Bay disposal (mid-way between 3.3 mcy and 2.3 mcy, the historical (1991-1997) maximum and average, respectively, volumes disposed in the Bay); (2) allocating in-Bay disposal site capacity between three dredger types: small, medium, and U.S. Army Corps of Engineers (COE); and (3) setting overall in-Bay disposal volume limits (the sum of medium and COE average annual allocations and the average annual volume expected to be generated by small dredgers) that decrease every three years throughout the transition period. ²

On July 8, 1998, a scoping meeting was held to present and discuss the following potential strategies for implementing the preferred alternative:

1. **Total Allotments Over a Multi-Year Period With Trading.** As a part of this strategy, each medium and COE dredging project sponsor would receive an in-Bay disposal allotment, mid-way between their seven-year in-Bay disposal average volume and seven-year maximum volume (derived from 1991-1997 disposal volumes), which could be used over a multi-year period or traded with other medium and COE dredgers;

1 It should be noted that the "target" of 1.25 mcy is slightly less ambitious than the goal of 1.0 mcy, as noted on Figure 1. This allows more flexibility in the event historical average dredging and in-Bay disposal patterns change due to climatic conditions, etc..

2 For planning purposes: small dredging projects have been defined by a dredging depth of less than -12 MLLW and generating less than 50,000 cy per year as a long-term average; medium dredging projects by a depth greater than -12 MLLW and/or average annual long term volumes greater than 50,000; and COE projects as those maintained by the COE. It should be noted that dredging project definitions will be further clarified in the Draft LTMS Management Plan.

2. **Average Annual Allotments With Trading and Without Banking.** Under this strategy, each medium and COE project sponsor would receive an annual in-Bay disposal allotment, mid-way between their seven-year (1991-1997) average and seven-year maximum volume, that could be used over a one-year period only or traded with other medium and COE dredgers;

3. **Average Annual Allotments With Trading and Banking.** Under this third strategy, each medium and COE project sponsor would receive an annual in-Bay disposal allotment which could be used over a one-year period only, banked for use at a later time, or traded with other medium and COE dredgers;

4. **First-come, first-served.** This strategy would involve allowing project sponsors to dispose of material at in-Bay sites on a first-come, first-served basis until the in-Bay disposal volume limits and target volumes for each in-Bay site had been met;

5. **Reduced In-Bay Disposal of COE Maintenance Material To Achieve Volume Targets.** Under this strategy, the maximum volume of COE maintenance material in any one year would be taken to UWR or ocean sites in order to meet the in-Bay disposal volume goal.

These five potential strategies also had several features in common including: (1) an exemption from in-Bay disposal volume limits for small dredgers; (2) a contingency set-aside at in-Bay disposal sites for emergencies; and (3) an in-Bay disposal fee to monitor and manage sites. (A more detailed discussion of these five strategies is presented in *Discussion Paper: Potential In-Bay Allocation Strategies*, July 3, 1998.) In addition, two other strategies were proposed at the July 8, 1998, scoping meeting:

6. **Free Market System (Mr. Ed Ueber, Farallones National Marine Sanctuary).** Under this strategy, in-Bay disposal allotments would be sold to dredging project sponsors using an open-bid process, thereby getting away from giving and basing allotments on a historical "right;" and

7. **Decreasing In-Bay Disposal (Mr. Keith Nakatani, Save San Francisco Bay Association).** This strategy would use incentives aimed at decreasing in-Bay disposal over time.³

The comments regarding these potential implementation strategies raised at both the July 8, 1998, scoping meeting and in letters received following the meeting (Attachments 1-5) primarily focused on:

- a. The difficulty—from an administrative standpoint—of tracking allotted volumes actually disposed in the Bay;
- b. The potential navigational and economic impacts of *any* restrictions on in-Bay disposal on proposed dredging projects;
- c. The problem of using one-year—as opposed to multi-year—allotments particularly for areas not dredged on an annual basis;
- d. The value of a multi-year strategy involving banking and/or trading in light of the potential for longer-term planning and consequently, reliability;
- e. The consequences of strategies involving banking allotments which in turn might result in fewer incentives to trade;
- f. The inherent "unfairness" of a first-come, first-serve strategy;

³ Specific incentives were not presented at the July 8, 1998, meeting.

- g. The potential navigational impacts resulting from a strategy focused on the disposal of COE maintenance material out of the Bay since use of UWR and ocean disposal options would depend on available funding;
- h. The perceived "preferential" treatment of small dredgers over COE and medium dredgers in light of the proposed exemption from in-Bay disposal restrictions;
- i. The existing difficulties regarding use of UWR and ocean disposal options and absence of clear direction as to how feasibility of use would be improved over time;
- j. The necessity of increasing UWR and ocean disposal options over time in order to decrease in-Bay disposal volumes;
- k. The reason for establishing the starting point at 2.8 mcy when in-Bay disposal volumes for 1997 were considerably less, approximately 1.5 mcy;
- l. the potential redundancy of an in-Bay disposal fee with the existing Regional Monitoring Program (RMP) fees; and
- m. the fact that any strategy should ultimately discourage dredgers from disposing material in the Bay.

In response to comments raised to date regarding the potential strategies presented at the July 8, 1998, scoping meeting, a new strategy has been developed. The proposed strategy recognizes many of the concerns raised during the public comment period in that it: (1) gives dredging project sponsors multi-year—as opposed to one-year—in-Bay disposal allotments; (2) recommends potential initial steps for addressing limited UWR options; and (3) allows for trading and banking of allotments between dredgers to allow for greater flexibility and better planning.

However, some features of strategies presented at the July 8, 1998 meeting, which received an unfavorable response from several members of the public have been retained as a part of the proposed strategy. For example, the proposed strategy includes a small dredger exemption from in-Bay disposal volume restrictions in the event UWR or ocean disposal options are not feasible, as a way to minimize economic impacts on those entities which historically have generated and disposed relatively small and, typically, infrequent volumes of material in the Bay. Regarding setting the starting point at 1.5 mcy per year as a mechanism for decreasing in-Bay disposal volumes from the outset of the transition, the proposed strategy retains a starting point of 2.8 mcy. This figure, which is mid-way between the seven-year (1991-1997) maximum volume and seven-year average volume, allows for some flexibility in annual dredging and disposal volumes which can vary from year-to-year depending on climatic conditions, sediment loads, and economic variables.⁴

Proposed Strategy: Total Allotments Over a Multi-Year Period With Trading and Banking

1. **Small dredger exemption.** Small dredgers would be exempt from any in-Bay disposal allocations, and thus would be allowed to dispose in the Bay as long as there are no UWR or ocean alternatives. Each small dredger would therefore be required to determine and document whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the Dredged Material Management Office (DMMO). Between 1991 and 1997, an annual average of approximately 250,000 cubic yards (cy) were dredged by the small dredgers. Therefore, it is anticipated that an average of 250,000 cy per year capacity at in-Bay sites would be needed to accommodate the small dredgers.

⁴ The 2.8 mcy starting point figure is the sum of the medium and COE average annual allocations and the average annual volume expected to be generated by small dredgers.

2. **Medium and COE dredgers.** At the beginning of the transition to the preferred alternative, each medium and COE dredging project sponsor would receive an in-Bay disposal volume allocation mid-way between their seven-year average and seven-year maximum volumes derived from their 1991-1997 disposal volumes. Accordingly, the overall in-Bay disposal volume limit would initially be set at 2.8 mcy, which is the combined total of the medium and COE average annual allocations and the average annual volume expected to be generated by small dredgers. In order to implement the goals of the preferred alternative, individual medium and COE allocations would be reduced every three years. Consequently, the overall in-Bay disposal volume limit would be reduced; a reduction of approximately 380,000 cy every three years would result in achieving the in-Bay disposal volume goal of 1.0 mcy in twelve years. (Figure 1)

The total volume allotted to each medium and COE project sponsor could be used for a single dredging episode or a series of episodes over a three-year period. Dredging project sponsors could dispose their allotted volume at any time during the three-year period as long as the total in-Bay disposal limit was not exceeded. Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process through the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed. Once a project sponsor had used their total in-Bay disposal allocation for any three-year period, no material from subsequent dredging episodes could be disposed in the Bay during that period unless trading occurred. Instead, any material in excess of the allocated in-Bay disposal volume for that three-year period would require use of alternative disposal options or trading of disposal allocations.

3. **Trading and Banking.** Any unused portion of a particular volume allotment could be exchanged between medium and COE dredging project sponsors. It would be up to the discretion of project sponsors to make these exchanges. In the case where an "exchange" had occurred, DMMO permit applicants would be required to provide evidence and verification from another dredger that all or a portion of their allotted in-Bay disposal volume had been granted to the applicant.

Medium and COE project sponsors might also choose to "bank" their dredging allotments from one three-year period to the next so as to reserve sufficient volume for a future in-Bay disposal event. However, unless used during the subsequent three-year period, these credits would essentially "expire" at the end of that period and could not be carried any further into the future. In addition, banked volumes carried from one three-year period to the next would be reduced to reflect reductions in individual three-year allotments and the overall in-Bay disposal volume limit.

Dredging project sponsors whose volume allotment would not allow all of the volume generated from a project to be disposed in the Bay, and who might be unable to obtain additional in-Bay volume allotments from other dredgers or who had used up any reserved volumes under the banking system, would need to find alternative disposal sites. Because of their exemption, small dredgers would not be a part of this trading and banking system.

4. **Contingency Allotment.** In each three-year period, a specific volume of in-Bay disposal site capacity would be reserved to allow for in-Bay disposal in the event of an emergency. Up to 250,000 cy per year would be reserved at in-Bay disposal sites for potential contingencies. As shown in Figure 1, the contingency allotment would not affect volume allocations for medium or COE dredgers or the small dredger exemption but would exceed the overall in-Bay disposal volume limit.⁵

⁵ The types of emergency conditions approved under the contingency allotment will be defined in the Draft LTMS Management Plan.

5. **Site monitoring disposal fees.** Disposal fees would be administered in order to analyze more fully the impacts associated with on-going dredged material disposal activities at the existing in-Bay disposal sites. The fees would be used to conduct an Ecological Risk Assessment over the 12-year transition period. The fee would vary according to the volume disposed with those generating smaller volumes paying lower fees per cubic yard and those dredging larger volumes paying higher fees per cubic yard. As such the fee would be proportionate to the level of use and potential for impacts. This fee would not be intended to supplant the existing Regional Monitoring Program (RMP) fee, but instead would be used to complement efforts currently funded through the RMP fee. It should be noted that a new fee would require state legislation prior to implementation.

6. **UWR Site Development.** Implementation of the proposed strategy is highly dependent on, among other things, the availability of disposal and/or reuse alternatives to in-Bay disposal sites. The federal deep-ocean disposal site (SF-DODS) currently has an annual capacity of 4.8 mcy. At the end of 1998, a permanent site disposal limit and designation is expected. Although, several UWR projects have been implemented to date, opportunities for material generated from a variety of sources and for material that is unsuitable for unconfined aquatic disposal remain limited.

Currently, planning efforts are underway for two potential UWR sites, one located at the former Hamilton Army Airfield and adjacent antenna field in Marin County and another at the Montezuma Wetlands restoration site in Solano County. The potential capacity for dredged material at the Hamilton restoration site is approximately 10 mcy, and up to 20 mcy at the Montezuma site. It is presently expected that dredged material could be accepted at the Hamilton site for construction purposes as early as July, 1999, and at Montezuma a few years later. In addition to these projects it is expected that current volumes of dredged material going to the Delta will increase over time. Lastly, the Dredged Material Reuse Project—a consortium of members from the regulatory, environmental, and business communities—has committed to locating and preparing planning and development materials needed to develop at least one rehandling facility, if found feasible through its efforts, by fall, 1999. Consequently, over the twelve-year transition period upland sites could accommodate a significantly large percentage of dredged material. (Figure 2).

However, the implementation of the above-referenced sites and those found feasible for implementation through any efforts currently underway will depend highly on the continued leadership of the LTMS federal and state partners. As such, the COE would commit to taking the maximum volume of maintenance material out of the Bay necessary to meet the in-Bay disposal goal of 1.0 mcy and to obtaining the funds necessary to develop and sponsor UWR projects, while the LTMS state agencies would commit to pursuing legislation to obtain funds necessary to, for instance, provide the local cost share for UWR projects (as well as to institute a new site monitoring fee, as discussed earlier). The Draft LTMS Management Plan will address other ways to increase UWR opportunities.

7. **Schedule and Periodic Review.** The transition is scheduled to begin after the Record of Decision is signed beginning in December 1998. At the close of each three-year period following initiation of the transition, the proposed strategy and other elements of the Final LTMS Management Plan would be reviewed and revisions made, where necessary, to reflect changing statutory, regulatory, scientific, or environmental conditions.

8. **Pros and Cons.** Potential advantages and disadvantages associated with the proposed strategy are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

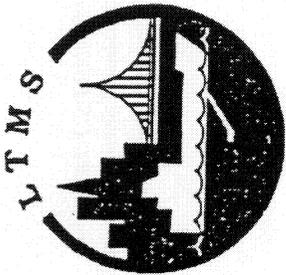
Pro. The starting point for medium and COE dredgers is high enough (i.e., it reflects a multi-year volume as opposed to an annual average volume) to facilitate dredging without the need for trading or waiting over a multi-year period to commence projects.

Pro. During the period when the overall in-Bay disposal volume limit is 2.8 mcy, there would be adequate in-Bay disposal capacity in the event all medium and COE dredgers intended to dredge their combined total average annual in-Bay disposal volume allocation (i.e. equal to their proportion of the 2.8 mcy starting volume derived from their total average 1991-1997 disposal volumes), approximately 2.4 mcy.

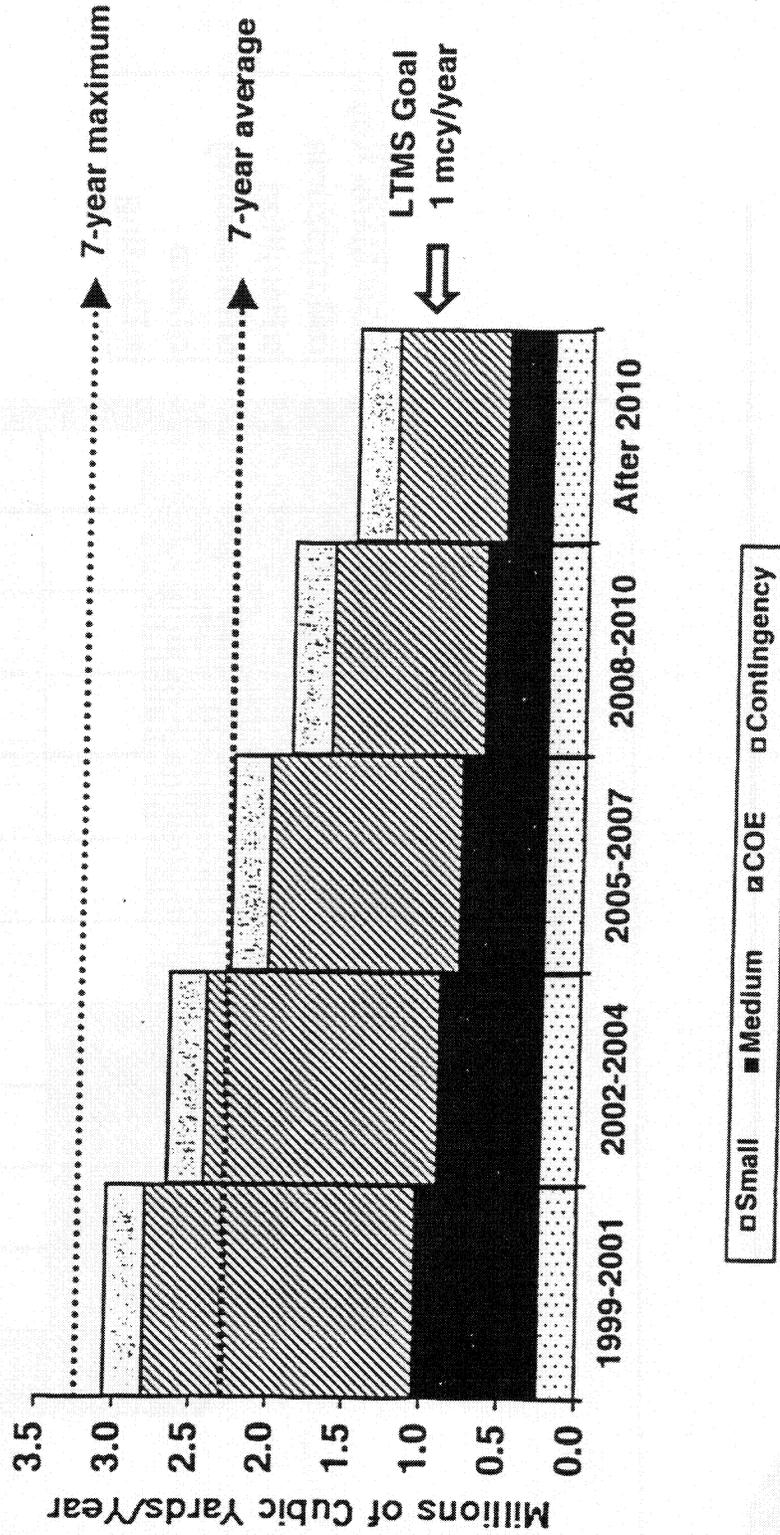
Con. With the banking option, if the preferred disposal option were in the Bay, then there would be greater incentive to bank than to trade. As a result, dredgers might not be able to obtain credits via the trading system.

Con. Banked volumes would decrease overtime in proportion to decreases in the in-Bay disposal volume limits. Therefore dredgers risk reduced banked volumes over time.

Con. If all medium and COE dredgers opt for using their combined total—as opposed to average—volume allotments in a single year, the initial starting point of 2.8 mcy could be exceeded. Thus, there would be insufficient capacity at in-Bay sites for the combined medium and COE total volume allotments during that time.



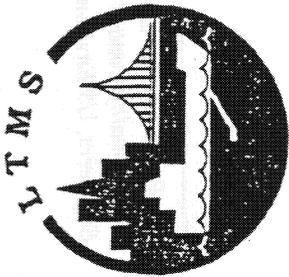
Proposed Transition Limits



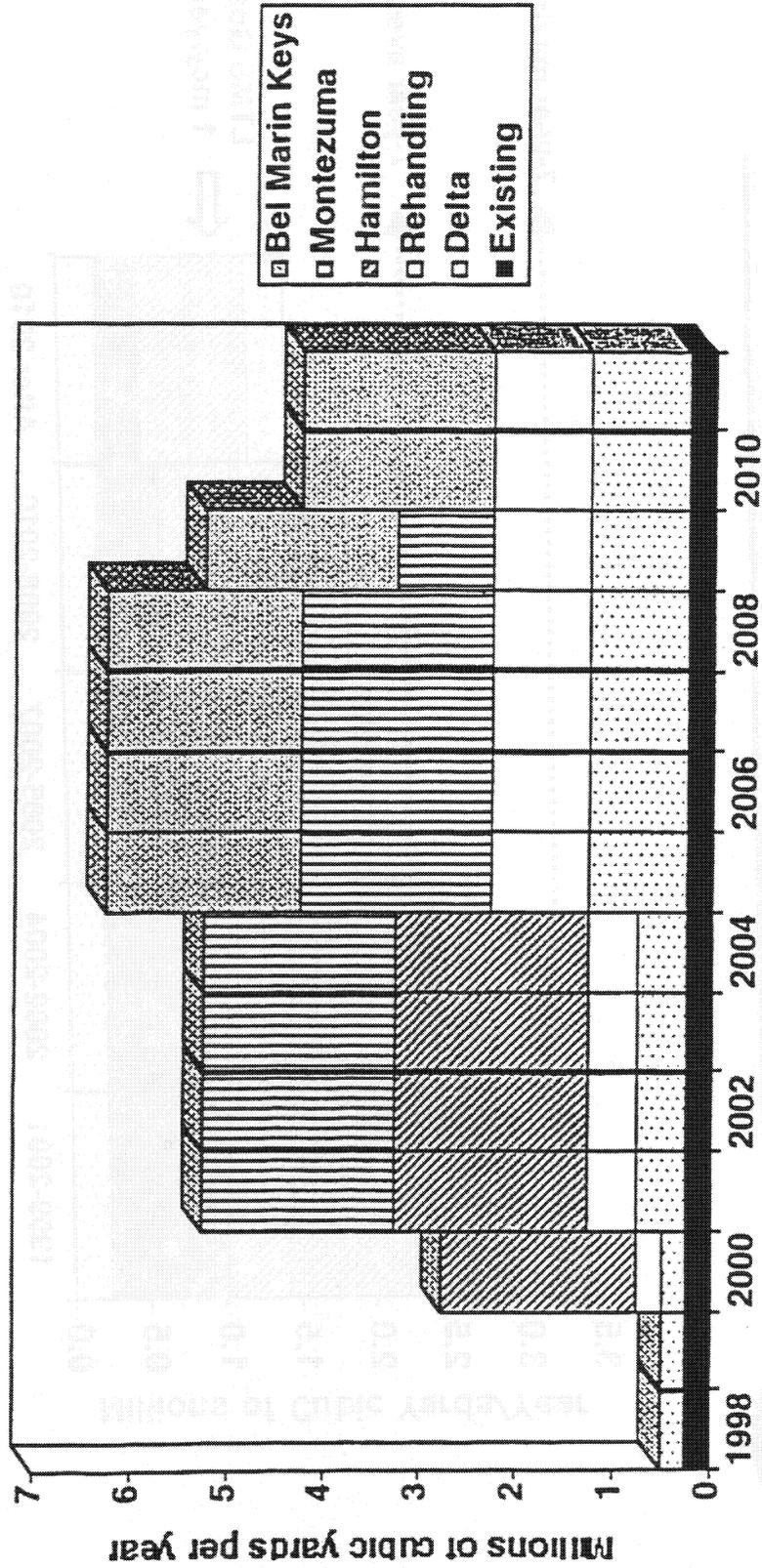
San Francisco Bay Conservation & Development Commission, San Francisco Bay Regional Water Quality Control Board, State Water Resources Control Board, US Army Corps of Engineers, US Environmental Protection Agency

LTMS Management Plan Workshop
November 16, 1998

Figure 1



Potential UWR Capacity



San Francisco Bay Conservation & Development Commission, San Francisco Bay Regional Water Quality Control Board, State Water Resources Control Board, US Army Corps of Engineers, US Environmental Protection Agency

L.T.M.S. Management Plan Workshop
November 16, 1998

Figure 2

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
Thirty Van Ness Avenue • Suite 2011 • San Francisco, California 94102 • (415) 557-3686 • FAX: (415) 557-3767

November 25, 1998

Agenda Item #11

TO: Commissioners and Alternates

FROM: Will Travis, Executive Director [415/557-8775 travis@bcdc.ca.gov]
Steve Goldbeck, Program Director Dredging and Governmental Affairs
[415/557-8786 steveg@bcdc.ca.gov]

SUBJECT: Briefing on the Long Term Management Strategy (LTMS) Program for Dredging and Disposal Activities in the San Francisco Bay Area
(For Commission consideration on December 3, 1998)

Summary

The Long Term Management Strategy (LTMS) for dredging and disposal in the San Francisco Bay Area is a joint program of the San Francisco Bay Conservation and Development Commission (BCDC), the U.S. Army Corps of Engineers (Corps), the U.S. Environmental Protection Agency (US EPA), the San Francisco Bay Regional Water Quality Control Board (Regional Board), and the State Water Resources Control Board (State Board). Over 40 other representatives from the business, environmental, regulatory, and scientific communities have been involved in the development of the LTMS since its initiation in 1991. In October, 1998, the Final Policy Environmental Impact Statement/Programmatic Impact Report (EIS/R) for the LTMS was released. It presented alternative strategies for managing dredging and disposal activities in an economically and environmentally sound manner over the next fifty years. The preferred strategy involves reducing dredged material disposal in the Bay and maximizing beneficial use of dredged material at upland sites, with remaining material going to the federally-designated deep-ocean disposal site. The Draft LTMS Management Plan, which is under preparation, will specify how the preferred alternative will be achieved and will include proposed amendments to the *San Francisco Bay Plan* and the *San Francisco Bay Basin Water Quality Control Plan*. These amendments will be considered by the Commission and the Regional Board at a joint hearing in April, 1999.

Long Term Management Strategy

LTMS Preferred Alternative. In October, 1998, the Final EIS/R for the LTMS program identified the chosen strategy for managing dredging and disposal activities in the Bay Area over the next fifty years. The strategy emphasizes reducing dredged material disposal in the Bay over time to only 1.0 million cubic yards (mcy) per year. Beneficial use of dredged material at upland sites would be maximized, with remaining material going to the federal deep-ocean disposal site. Four other alternatives were considered, but the selected alternative will best achieve the goals of the LTMS of reducing

environmental risks to the Estuary by decreasing in-Bay disposal, using more dredged material as a resource, increasing predictability for dredging project sponsors, avoiding a return to "mudlock," and helping to maintain the region's maritime economy.

Proposed Transition and Allocation Strategy. The transition from present disposal practices to the LTMS goal of 1.0 mcy of material per year at in-Bay sites will not be implemented immediately. Instead, a transition will take place more gradually over a period of twelve years to reduce economic dislocations to dredgers, allow time for new beneficial reuse sites to come on-line, permit new equipment and practices to be implemented, and establish funding mechanisms and arrangements.

Over the past seven years, an annual average of 2.3 mcy per year of dredged material has been disposed in the Bay by the small, medium, and Corps dredgers.¹ During that seven-year period, the maximum volume of material disposed in the Bay was approximately 3.3 mcy in 1993. These volumes are far below existing in-Bay disposal site targets which range between a total of 6.7 and 7.7 mcy per year depending upon climatic conditions. (Figure 1)

The proposed strategy proposes that at the start of the transition period, medium and Corps dredgers would receive an in-Bay disposal volume allocation based on their seven-year average and maximum volumes. Accordingly, the overall in-Bay disposal volume limit would initially be set at 2.8 mcy, which is between the average and highest in-Bay disposal volumes over the past seven years. In order to implement the preferred alternative, this volume limit would be reduced by approximately 380,000 cy every three years. Consequently, the in-Bay disposal volume goal of 1.0 mcy would be achieved in twelve years. (Figure 2)

Trading and Banking. To maximize flexibility for dredgers, the LTMS agencies are considering giving dredgers their total allotment for each three-year period during the transition. This would allow the dredgers to better manage their disposal activities. Further, dredgers would be able to trade allotments with other dredgers. Medium and Corps project sponsors might also be allowed to "bank" their dredging allotments from one three-year period to the next. However, unless used during the subsequent three-year period, these credits would expire at the end of that period. In addition, banked volumes carried from one three-year period to the next would be reduced to reflect reductions in individual three-year allotments and the overall in-Bay disposal volume limit.

Small Dredger and Contingency Exemptions. Small dredgers would be exempt from in-Bay disposal volume restrictions as a way to minimize economic impacts on these entities, which as a group have historically generated and disposed relatively small—250,000 cy per year—volumes of material in the Bay. An additional 250,000 cy capacity per year of in-Bay disposal may be provided to accommodate dredging emergencies.

¹ Small dredging projects have been defined by a dredging depth of less than -12 MLLW and generating less than 50,000 cy per year as a long-term average. Medium dredging projects are those which do not fall under the small or Corps project categories.

Beneficial Reuse and Ocean Feasibility. Under the proposed allocation strategy, all dredgers would still be required to determine whether upland or ocean disposal alternatives could be used, and in the event either alternative were feasible in-Bay disposal would not be allowed. Implementation of the proposed strategy is dependent on the availability of alternatives to in-Bay disposal sites. The ocean disposal site currently has an annual capacity of 4.8 mcy. At the end of 1998, a permanent site disposal limit and designation will be set by the US EPA. In addition, planning efforts are currently underway to expand beneficial use opportunities at the former Hamilton Army Airfield in Marin County and at the Montezuma Wetlands restoration site in Solano County, where potential capacity would be approximately 10 mcy, and 17 mcy, respectively. It is presently expected that dredged material could be accepted at the Hamilton site for construction purposes as early as 2000 and at Montezuma in late 1999. In addition to these projects, the volume of dredged material going to the Sacramento-San Joaquin Delta for reuse will likely increase over time. Lastly, the Dredged Material Reuse Project—a consortium of members from the regulatory, environmental, and business communities—has committed to locating and preparing planning and development materials needed to develop at least one rehandling facility, if feasible, by fall, 1999. Consequently, over the twelve-year transition period upland sites should be able to accommodate the proposed level of reuse in the LTMS. (Figure 3)

LTMS Management Plan

Development and Adoption. The detailed policy and regulatory framework strategy for implementing the LTMS will be presented in the Draft Management Plan. The Draft Management Plan will serve as the regional decisionmaking framework for dredging and disposal activities and contain specific guidance for each of the LTMS agencies as to how decisions regarding these activities will be made. The Draft Management Plan will also include: (1) disposal and reuse site monitoring and management plans; (2) dredging project coordination mechanisms in which the LTMS agencies will participate; (3) public participation and review processes; and (4) proposed San Francisco Bay and Basin Plan amendments necessary to implement the LTMS program.

The Draft Management Plan, including the proposed San Francisco Bay and Basin Plan amendments, is scheduled to be issued in April, 1999. A joint public hearing before the Commission and Regional Board is scheduled for May, 1999, with a vote in August, 1999. Once finalized, the Management Plan will be reviewed and updated every three years or as necessary to reflect changing statutory, regulatory, scientific, or environmental conditions.

Background

Dredging and Disposal Prior to LTMS. High sedimentation rates make it necessary to conduct regular dredging throughout the Bay. Historically, most dredged material has been disposed at sites in the Bay with most material going to a site near Alcatraz Island. This site was selected because it was believed that the material would disperse to the ocean. By the early 1980s, however, a "mound" of dredged material reached within 30 feet of the Bay's surface and posed a threat to navigational safety. The discovery of the Alcatraz mound coincided with growing concerns about the potential impacts of dredging and disposal activities on the Bay's natural resources. Together these issues resulted in controversy, dredging project delays and fragmented agency management

during a period commonly referred to as "mudlock." In 1989, the competing needs and concerns of industry, ports, and the fishing and environmental communities reached a dramatic peak when a flotilla of fishing boats and other vessels formed a blockade around the Alcatraz disposal site.

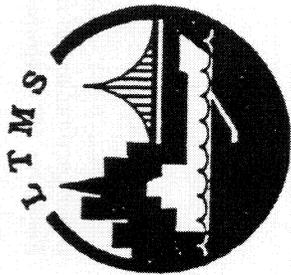
Long Term Management Strategy. In response to these problems, in 1991, the Commission, the Corps, the US EPA, the Regional Board, and the State Board initiated the LTMS to develop a plan to improve management of dredging and disposal activities in the Bay Area. The LTMS goals are to: (1) ensure maintenance of channels necessary for navigation and eliminate unnecessary dredging; (2) facilitate environmentally sound disposal of dredged material; (3) maximize use of dredged material as a resource; and (4) establish a cooperative framework for dredging permits. A series of technical studies, which formed the basis of the LTMS plan, were undertaken to identify alternatives to in-Bay disposal sites and potential impacts associated with in-Bay disposal and these alternatives. US EPA and the Regional Board focused on the ocean and in-Bay environments, respectively. BCDC focused on the upland environment where dredged material could be used beneficially to restore wetlands, stabilize levees, and for other construction purposes, for instance, at landfills. In 1991, the State Legislature passed the San Francisco Bay Dredging Act of 1991, which directed and funded the Commission's involvement in the LTMS, and which became effective on January 1, 1992.

San Francisco Bay Plan Amendment. In 1992, the Commission amended the dredging findings and policies in the Bay Plan to, among other things, recognize that regular dredging is needed, dredged material should be used beneficially at upland sites, capacity of existing disposal sites is limited, and ocean and non-tidal disposal sites are necessary to accommodate future dredging projects. To develop these solutions, the Commission amended the Bay Plan to establish the policy basis for the Commission's involvement in the LTMS.

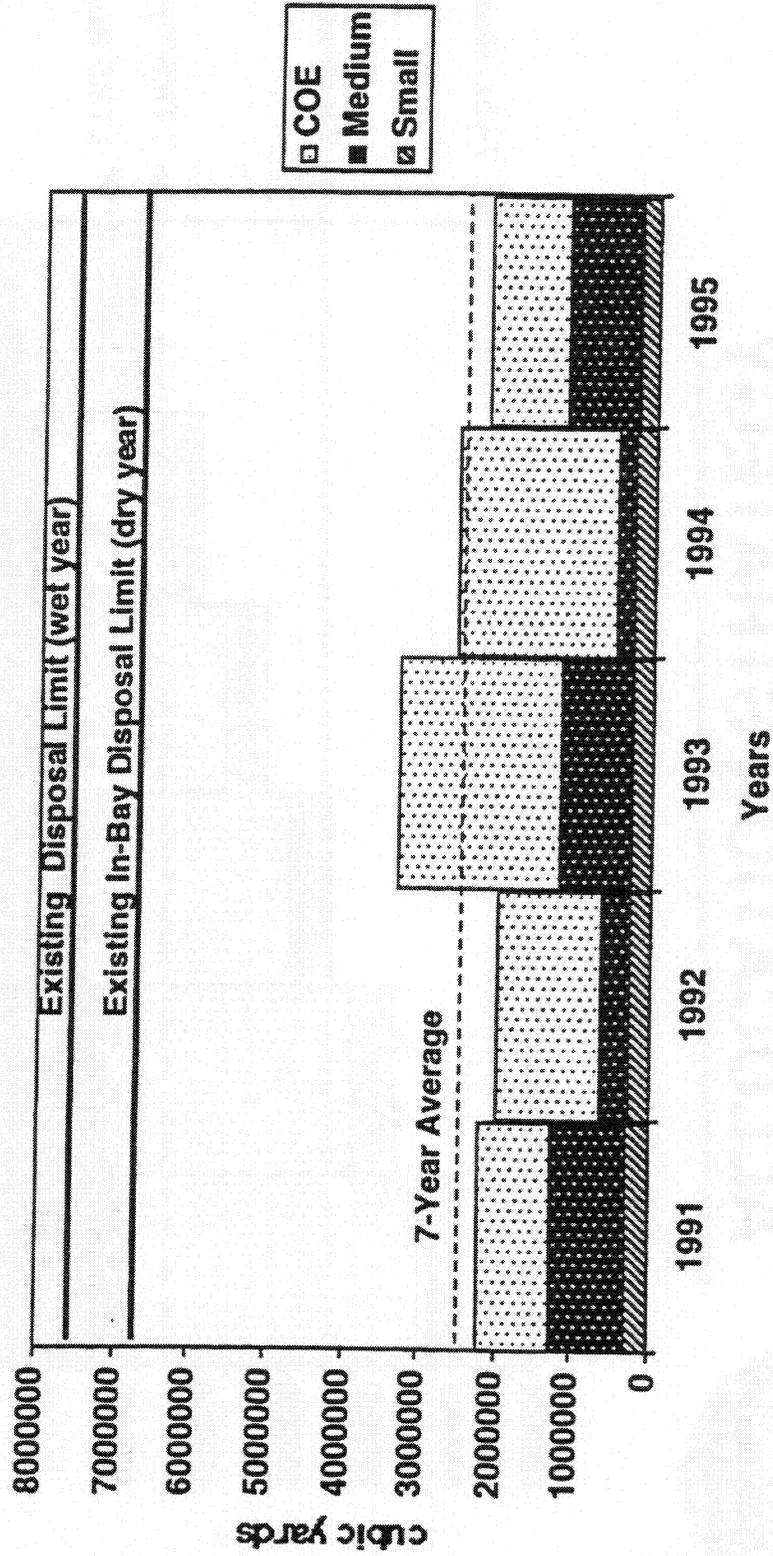
LTMS Milestones

- 1992: LTMS agencies decide to prepare EIS/R for the LTMS.
- 1993: LTMS agencies issue Notice of Intent/Notice of Preparation for the EIS/R.
- 1993: LTMS agencies improve sediment testing to better protect the Bay.
- 1994: US EPA designates deep-ocean disposal site, thereby providing first viable alternative to in-Bay disposal since LTMS initiated.
- 1994: Demonstration project used Corps maintenance material to stabilize levees at Jersey Island in the Delta.
- 1995: Port of Oakland -42-foot deepening project material used to restore wetlands at Sonoma Baylands, showing beneficial use to be a feasible project alternative.

- 1996: Pilot Dredged Material Management Office (DMMO) established to streamline dredging permit process.
- 1996: Draft EIS/R for the LTMS released.
- 1997: Sonoma Baylands project receives Coastal America Award.
- 1998: DMMO receives Vice President Gore's Hammer Award.
- 1998: National Inland Testing Manual (ITM) adopted.
- 1998: Montezuma Wetlands project FEIS released.
- 1998: Hamilton Wetlands project DEIS released.
- 1998: Corps' maintenance material used to stabilize levees at Winter Island in the Delta.
- 1998: FEIS/R for the LTMS released.



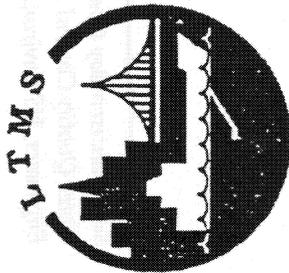
HOW WILL WE GET THERE? RECENT DREDGING HISTORY



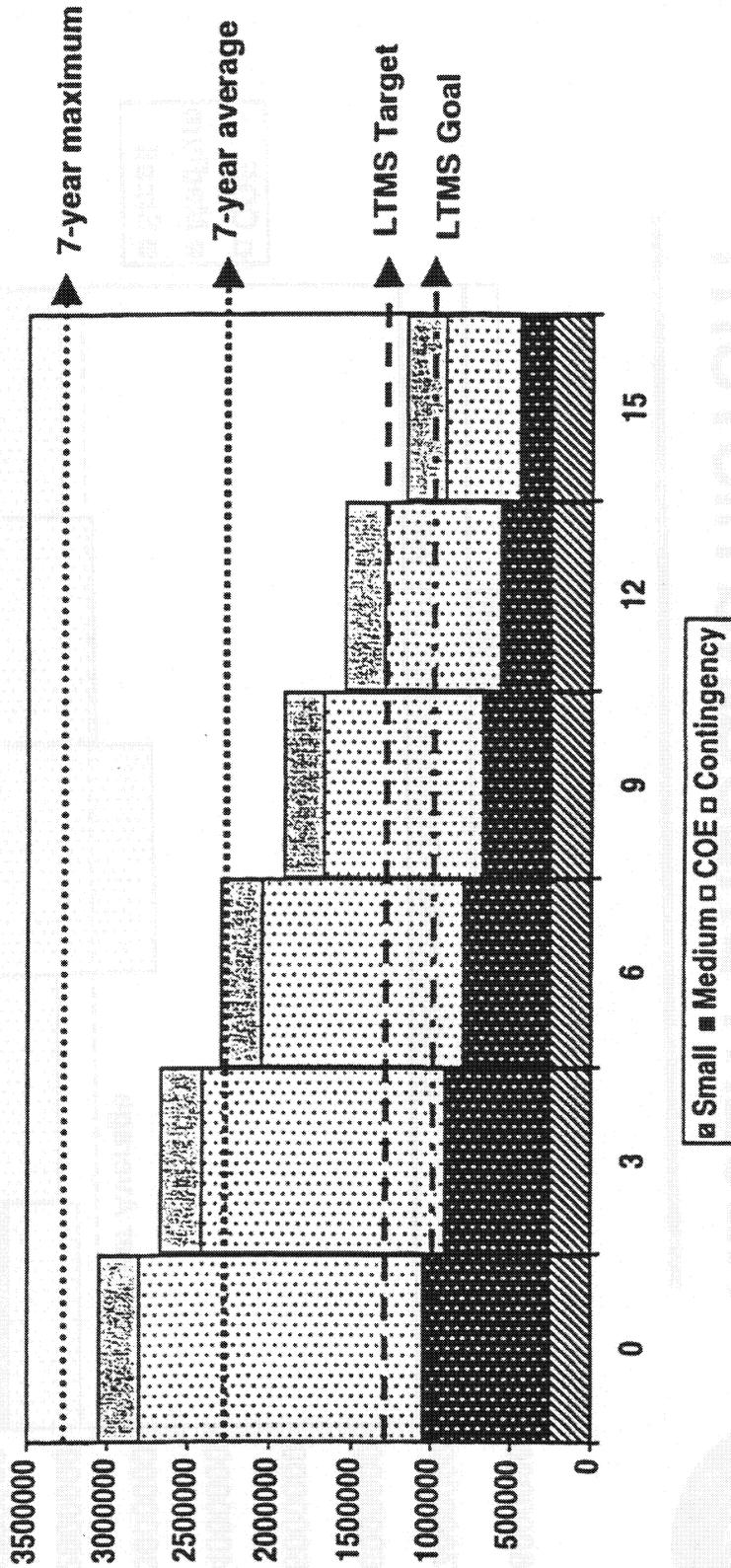
San Francisco Bay Conservation & Development Commission, San Francisco Bay Regional
 Water Quality Control Board, State Water Resources Control Board, US Army Corps of
 Engineers, US Environmental Protection Agency

L.T.M.S. Management Plan Workshop
 December 3, 1998

Figure 1



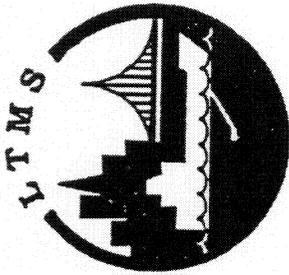
PROPOSED TRANSITION & ALLOCATION STRATEGY



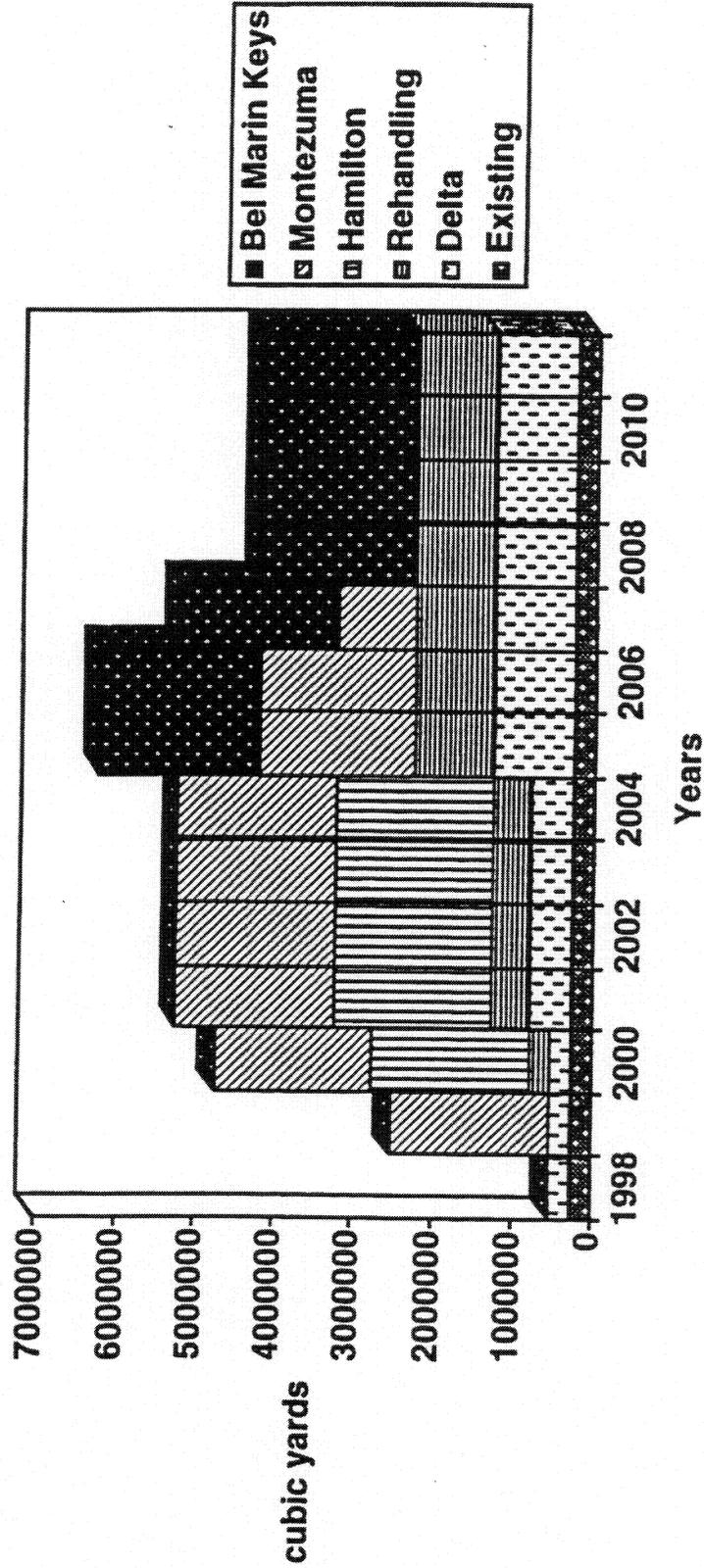
San Francisco Bay Conservation & Development Commission, San Francisco Bay Regional Water Quality Control Board, State Water Resources Control Board, US Army Corps of Engineers, US Environmental Protection Agency

LTMS Management Plan Workshop
December 3, 1998

Figure 2



POTENTIAL UPLAND/REUSE CAPACITY



San Francisco Bay Conservation & Development Commission, San Francisco Bay Regional
 Water Quality Control Board, State Water Resources Control Board, US Army Corps of
 Engineers, US Environmental Protection Agency

LTMS Management Plan Workshop
 December 3, 1998

Figure 3

ISSUE PAPER ON PHASED TRANSITION TO LTMS PROGRAM GOALS

Background

The *Final Environmental Impact Statement/Programmatic Environmental Impact Report (EIS/R) for the Long Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region* identified the alternative selected by the LTMS agencies. This selected alternative involves maximizing beneficial reuse of dredged material and reducing dredged material disposal in the Bay, using a multi-year transition period, to a low level of approximately 1.0 million cubic yards (mcy) per year or less. A preliminary discussion regarding potential mechanisms for implementing the preferred alternative was presented in the Final EIS/R for the LTMS, including potential strategies for allocating future use of the in-Bay disposal sites.

The LTMS agencies initially identified potential in-Bay allocation strategies in a discussion paper issued on July 3, 1998, and further discussed these options with the stakeholders at a scoping meeting held on July 8, 1998. The input received from this meeting resulted in a second discussion paper dated November 16, 1998, which identified and discussed the five allocation strategies included in the Final LTMS EIR/EIS. Subsequently, interested parties expressed concern about issues related to implementation of the LTMS. In response, the LTMS agencies have held a series of facilitated workshops on various aspects of LTMS implementation, including the LTMS Management Plan. At a workshop held on September 17, 1999, the LTMS agencies presented the concept of a phased allocation strategy, which is discussed further in this issue paper. The revised strategy has been considered by the LTMS Management Committee, but is still under review and will be presented in full in the LTMS Management Plan.

In addition to the workshops, the LTMS agencies and partners have been working on a number of initiatives to provide alternatives to in-Bay disposal, thereby reducing the volume of dredged material disposed at these sites, minimizing impacts to the San Francisco Bay Estuary and facilitating attainment of the LTMS goals. These initiatives include:

1. The Sonoma Baylands Tidal Wetlands Restoration Project, which successfully demonstrated the development and funding of a large scale beneficial reuse site for wetland restoration. The Hamilton Wetlands Project, proposed by the Coastal Conservancy and the San Francisco Bay Conservation and Development Commission (BCDC), which will be constructed on the closed army airfield and an adjacent state-owned parcel in Marin County, has been Congressionally-authorized as a federal civil works project through the Water Resources Development Act (1999). The project could accommodate over 10 mcys of dredged material from Bay projects. Inclusion of the adjacent Bel Marin Keys parcel could triple the volume of dredged material used while expanding the wetland restoration project to cover a total of 2,600 acres.
2. The Montezuma Wetlands Project is moving forward as a private sector initiative that would use over 17 mcys of dredged material to restore wetlands. The U.S. Army Corps of Engineers (Corps) is presently evaluating the federal interest in participating

in the project, pursuant to Section 217C of WRDA 1996, which addresses private/public partnerships.

3. The EPA designated the San Francisco Deep Ocean Disposal Site (SFDODS) in August 4, 1994 with an interim annual disposal limit of six million cubic yards. After subsequent review of current dredging needs in the Bay area, EPA amended the designation rule to limit annual disposal at SFDODS to 4.8 million cubic yards. Several port deepening projects have used the SFDODS; in FY 2000, the Corps of Engineers has become the first dredger to use the site for O&M material.

Development of additional reuse alternatives and funding will hasten the transition towards the LTMS goals.

Revised Allocation Strategy

Allocation Strategy 5 of the five allocation strategies, which was presented in the LTMS EIS/R and considered by the LTMS Management Committee to implement the LTMS transition involved the Corps taking the lead in placing material from maintenance of federal channels at beneficial reuse sites or at the SFDODS site. However, funding uncertainties associated with "Reduced In-Bay Disposal of COE Maintenance Material" tended to discourage its selection as the preferred alternative. Instead, Strategy 2 "Banking and Trading Component with an Overall Yearly Cap" was identified as the preferred strategy of the LTMS agencies.

Nevertheless, the changing dynamics of the San Francisco Bay dredging and disposal program through 10 years of planning are reducing in-Bay disposal. For example, several federal O&M projects are currently funded for ocean disposal and, in the near future, to the Hamilton Wetlands Restoration Project. The Corps estimates that in-Bay allocations for non-Corps O&M dredging projects may not be needed to meet LTMS program goals during the next six years.

Recognizing that the Corps is already implementing the LTMS transition as proposed in Strategy 5, the LTMS agencies propose that a phased approach be implemented, which melds Strategies 2 and 5. During the first phase, Strategy 5 "Reduced In-Bay Disposal of COE Maintenance Material" would be implemented as long as the yearly in-Bay disposal goals are met. During the second phase, Strategy 2 "Banking and Trading Component with an Overall Yearly Cap" would be implemented if and when the reduced in-Bay disposal goals are not met.

Elements of Phased Allocation

Phase I

1. As long as the yearly LTMS transition goals are met through voluntary efforts, dredgers will not be required to comply with individual allocations. However, dredging projects will still be evaluated using existing Bay Plan policies regarding disposal of dredged material and the Clean Water Act 404(b)(1) alternatives analysis based on practicability.¹

¹ The term "practicable" in the 404 B1 guidelines means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

2. Constraints that limit dredging and disposal practicability could be minimized through Bay-wide planning initiatives by the LTMS agencies and interested parties. This "good business and good government" initiative could address and manage constraints and maximize efficiencies through the following approaches:

- Intra-project coordination to minimize costs.
- Coordination of dredging projects to minimize environmental impacts.
- Development and funding of upland beneficial reuse sites to increase practicability of alternatives to in-Bay disposal.
- Coordination of monitoring efforts to track progress towards the LTMS goals.
- Development of "best dredging practices" to minimize the need for dredging.

3. Tracking of in-Bay disposal through the monitoring program would identify when constraints result in exceeding the annual in-Bay disposal goals, which would "trigger" implementation of Phase II, as discussed below.

Phase II

If the LTMS disposal goals are not being achieved through voluntary efforts, then an allocation strategy (with a banking and trading option) would be implemented by the LTMS agencies. The "triggering" process and the allocation system used in Phase II will be adopted by the LTMS agencies as part of the adoption of the San Francisco Bay and Basin Plan amendments and the LTMS Management Plan.

Initiating Event

The events that will "trigger" the transition from Phase I to Phase II will be either: (1) if the sum of the proposed yearly transition volumes for in-Bay disposal, plus the 250,000 cy of contingency volume, are exceeded by actual disposal volumes in any calendar year; or (2) when projections of proposed dredging for the following year clearly show that the planned transition disposal plus the contingency volume will likely be exceeded.

Once the initiating event occurs, individual dredger allocations will automatically be set in place for the following year, unless the LTMS Management Committee recommends and the San Francisco Bay Regional Water Quality Control Board (Regional Board) and BCDC vote *not* to implement the allocations. This latter action would be allowed only if: (1) the volume to be exceeded will not be substantial in light of overall progress (defined to be a nominal exceedence of less than 5 percent); or (2) the volume to be exceeded is demonstrably a singular event that clearly will not be repeated (i.e. emergency flood conditions in the Midwest takes funds away from the Corps' project planning in the San Francisco District). The period of time between when the initial "triggering" event occurs and when allocations are implemented will be no less than six months and no greater than eight months after the initiating event.

Once the allocation system is in place the LTMS agencies can, through an LTMS Management Committee recommendation and affirmative votes by both the Regional Board and the BCDC, suspend the allocation system if: (1) the yearly transition volumes for in-Bay disposal for that year, plus the 250,000 cy of contingency volume, are *not* exceeded by actual disposal volumes; or (2) proposed dredging projections for the following year clearly show that the yearly transition volume plus contingency volume will likely *not* be exceeded.

Allocations will be based upon the three-year allocations that would be in place had the LTMS agencies initiated the allocation system upon signing of the LTMS EIS/R federal Record of Decision, as proposed in the November 16, 1998 issue paper regarding the Allocation Strategy. As stated in that document, dredgers may trade or bank allocated volumes at their discretion. Additionally, small dredgers will be exempt from the allotment system.

Dredgers who petition to dispose in the Bay volumes that exceed their allotments will have to prepare a project-specific alternatives analysis for review by the LTMS agencies.

Every three years during Phase I, the LTMS agencies will review the progress towards the LTMS goals and recommend changes as necessary. Should Phase II be implemented, the agencies will then conduct annual reviews.

Requests by dredgers for larger allotments and by dredgers without allotments

Allocations for dredgers who petition to dispose in the Bay and who either have not previously been assigned an allotment, or who request larger allotments for in-Bay disposal would be granted on a determination by the Dredged Material Management Office (DMMO) that the dredger had received agency approvals and subsequently maintained their facility to a greater average annual volume for a time period at least equal to the LTMS database. The disposal volumes will have to be consistent in basis (i.e. from in-cut pre- and post-dredging surveys) and verifiably accurate. The DMMO will also verify the need for the increased dredging. Subsequently, the allotment would then be increased for dredging the specified additional dredged area or depth. Thereafter, allotments to the dredger will be based on the higher volume.

Benefits of Phased Allocation

This approach allows for:

- Immediate implementation that assures that the LTMS goals are met yet allows for minimal regulatory intervention.
- Continuation of the success of the collaborative approach and investment made in the LTMS planning process which has brought additional funding for the federal O&M program and authorization of the Hamilton Wetlands Restoration Project.
- Environmental impacts to be minimized through program-wide review and tracking.
- Future LTMS funding for beneficial reuse sites through economic optimization efforts.